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CONGRESS OF THE UNITED STATES
Office of Technology Assessment

J 102-37

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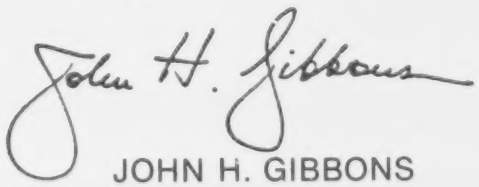
Preface

The Office of Technology Assessment (OTA) was established by Congress to provide congressional committees with analyses of emerging, difficult, and often highly technical issues. Governed by a 12-member bipartisan congressional board—six Senators and six Representatives—OTA provides a variety of services to the Senate and House on a broad range of issues. Services include briefings, testimony, and special reports on major assessments—some requiring more than 2 years to complete. OTA explores complex issues involving science and technology, helping Congress to resolve uncertainties and conflicting claims, identifying alternative policy options, and providing foresight or early alert to new developments that could have important implications for future Federal policy. OTA does not advocate particular policies or actions, but points out their pros and cons and sorts out the facts.

OTA's multidisciplinary staff plans, directs, and drafts all assessments. It draws extensively on the broad technical and professional resources of the private sector, including the academic community, public interest groups, State and local government, and the citizenry at large.

The publications listed in this brochure are the result of various assessments and analyses requested by the committees of Congress. This listing, organized by OTA Program area, will be revised periodically as further reports are published by OTA.



JOHN H. GIBBONS
Director

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For information on the operation of OTA or the nature and status of ongoing assessments write or call:

Congressional and Public Affairs Office
Office of Technology Assessment
U.S. Congress
Washington, DC 20510
Telephone (202) 226-2115

Categories of Reports Issued by OTA

OTA Reports are the principal documentation of formal assessment projects. These projects are approved in advance by the Technology Assessment Board. **Special Reports** are relatively short OTA reports on topics of direct relevance to specific legislation, oversight, or other congressional action. Both types of documents are expected to present policy options and findings with considerable policy significance. The Technology Assessment Board has the opportunity to review Reports and Special Reports before release but this does not necessarily imply endorsement of the results by the Board or its individual members.

OTA Technical Memoranda are issued at the request of committees or Members of Congress on specific technical subjects that are relevant to current congressional legislation or oversight.

OTA Background Papers, Case Studies, and Workshop Proceedings are documents that contain information that supplements formal OTA assessments or is an outcome of internal exploratory planning and evaluation. The material is usually not of immediate policy interest such as is contained in an OTA Report, Special Report, or Technical Memorandum, nor does it present options for Congress to consider.

How To Obtain OTA Publications

Most OTA publications listed in this brochure are available for sale through the Government Printing Office (GPO) and/or the National Technical Information Service (NTIS). In addition, many of OTA's reports are being reprinted by private publishers. They are described in the listings where applicable and can be ordered direct. Most OTA reports are also distributed automatically to more than 1,370 Regional Depository Libraries throughout the country and may be included in the Government Documents collection of university and public libraries in your area. Please consult your librarian for additional information.

Ordering Information

To order from GPO:

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402
Telephone (202) 783-3238

Orders must include the title, GPO stock number, and the proper remittance. **A list of GPO bookstores can be found on page 54 of this brochure.**

To order from NTIS:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
Telephone (703) 487-4650

Documents can be ordered from NTIS in either paper or microfiche format.

Order blanks for GPO and NTIS orders are included in the back of this brochure for your convenience. **(NOTE: Orders may be charged on either Visa or MasterCard.)**

To order from OTA Publishing Office **(NOTE: only those listed as available from OTA):**

Publishing Office
Office of Technology Assessment
U.S. Congress
Washington, DC 20510
Telephone (202) 224-8996

If you encounter difficulty and need assistance in the purchase or receipt of publications listed in this document from either GPO or NTIS, please notify the OTA Publishing Office at the above address.

ENERGY & MATERIALS

Western Surface Mine Permitting and Reclamation

Examines the methods of predicting and evaluating the success of reclamation practices; the relationship between preleasing and postleasing technological or methodological requirements for environmental protection; the development and use of innovative and emerging reclamation techniques; and the status of monitoring and research on mined land reclamation in the West.

Western Surface Mine Permitting and Reclamation. OTA-E-279. In progress, contact OTA Publishing Office.

New Electric Power Technologies: Problems and Prospects for the 1990s

Examines the development of a series of new technologies encouraged by the Federal Government that offer greater flexibility to utilities. Technologies to be examined include: utility-controlled load management; fuel cells; advanced coal- and gas-combustion; photovoltaics; and solar thermal, wind, and geothermal power.

New Electric Power Technologies: Problems and Prospects for the 1990s. OTA-E-246, July 1985; 340 pages. GPO stock #052-003-01005-4; $12.00. NTIS order #PB 86-121 746/AS.

Summary available from OTA Publishing Office.

U.S. Natural Gas Availability

Analyzes the key technical and physical parameters that determine the resource base, production rates, and costs of all categories of below-ground natural gas; critically reviews current estimates of the resource base, estimates the potential production rates of natural gas, and the uncertainties in these estimates; and assesses future technology trends and R&D needs that may accelerate these trends.

U.S. Natural Gas Availability: Gas Supply Through the Year 2000. OTA-E-245, February 1985; 260 pages. GPO stock #052-003-00986-2; $7.50. NTIS order #PB 86-109 162/AS.

Summary available from OTA Publishing Office.

Evaluates the future prospects for the discovery and production of conventional natural gas in the Lower 48 States and examines the gas resource base and future production potential.

U.S. Natural Gas Availability: Conventional Gas Supply Through the Year 2000—A Technical Memorandum. OTA-TM-E-12, September 1983; 108 pages. NTIS order #PB 84-114 909.

U.S. Vulnerability to an Oil Import Curtailment

Provides an analysis of the technical potential for replacing large quantities of oil in the United States over a 5-year period by fuel sub-

stitution and conservation in the event of an extended oil supply shortfall and price rise; analyzes the macro-economic consequences of the shortfall and various rates of oil replacement by the technologies.

U.S. Vulnerability to an Oil Import Curtailment: The Oil Replacement Capability. OTA-E-243, September 1984; 160 pages. GPO stock #052-003-00963-3; $5.50. NTIS order #PB 85-127 785/AS.

Summary available from OTA Publishing Office.

Volume II, Working Papers: Parts 1-4, available from NTIS.

Federal Coal Leasing Program

Outlines DOI's prelease environmental assessment and planning process, describes how that process was implemented in the five Western coal regions, discusses the issues that have been raised with respect to the adequacy of that process and its implementation, and reviews policy options that would allow leasing to proceed in an environmentally compatible manner.

Environmental Protection in the Federal Coal Leasing Program. OTA-E-237, May 1984; 156 pages. GPO stock #052-003-00954-4; $5.50. NTIS order #PB 84-222 413.

Nuclear Power in an Age of Uncertainty

Examines the future of nuclear power in this country; describes the current technological, economic, financial, public perception, and regulatory problems facing the domestic nuclear industry; identifies how various changes might affect the industry's future.

Nuclear Power in an Age of Uncertainty. OTA-E-216, February 1984; 296 pages. GPO stock #052-003-00941-2; $10.00. NTIS order #PB 84-183 953.

Volume II, Working Papers: Parts 1-3, available from NTIS.

Industrial Energy Use

Examines energy use in the industrial sector in general and in the largest energy-using industries—pulp and paper, petroleum refining, chemicals, and steel.

Industrial Energy Use. OTA-E-198, June 1983; 176 pages. GPO stock #052-003-00915-3; $6.00. NTIS order #PB 83-240 606.

Summary available from OTA Publishing Office.

Industrial and Commercial Cogeneration

Examines the role that cogenerators could play in providing electric and thermal energy for industrial and commercial facilities; reviews the economic, environmental, social, and institutional consequences of cogeneration; and analyzes policy options that Congress may wish to consider.

Industrial and Commercial Cogeneration. OTA-E-192, February 1983; 300 pages. NTIS order #PB 83-180 547.

Increased Automobile Fuel Efficiency and Synthetic Fuels

Assesses and compares increased automobile fuel efficiency and synthetic fuels production with respect to their potential to reduce conventional oil consumption, and their costs and impacts.

Increased Automobile Fuel Efficiency and Synthetic Fuels: Alternatives for Reducing Oil Imports. OTA-E-185, September 1982; 296 pages. NTIS order #PB 83-126 094.

Background Papers, Parts 1-5, available from NTIS.

Energy Efficiency of Buildings in Cities

Focuses on the interaction of technology and policy for new and existing residential and commercial buildings in U.S. cities for the next two decades.

Energy Efficiency of Buildings in Cities. OTA-E-168, March 1982; 364 pages. NTIS order #PB 82-200 346.

Volume II and III, Working Papers available from NTIS.

Biomass

Evaluates the energy potential of plant and animal matter (biomass), concentrating on four biomass fuel cycles—wood, alcohol fuels, grasses and crop residues, and animal wastes. Describes biomass' place in two plausible energy futures and discusses policy options.

Energy From Biological Processes. OTA-E-124, July 1980; 196 pages. NTIS order #PB 80-211 477. Also available in hardback under the title "Energy From Biological Processes: Technical and Policy Options" from Westview Press, Inc., Boulder, CO.

Volume II: Technical Report, available from NTIS. Also available in hardcover from Ballinger Publishing Co. Cambridge, MA; and in paperback from McGraw-Hill, New York, NY.

Volume III: Appendixes, Parts A-C, available from NTIS.

INDUSTRY, TECHNOLOGY, & EMPLOYMENT

Potential Effects of Section 3 of the Federal Coal Leasing Amendments Act of 1976

Assesses the potential impacts of enforcement of section 3 and the possible consequences of amendment or repeal. Also examines the availability and effectiveness and other mechanisms for promoting timely development of Federal coal leases and analyzes a range of possible legislative alternatives for congressional consideration.

Potential Effects of Section 3 of the Federal Coal Leasing Amendments Act of 1976: A Special Report. OTA-E-300, March 1986; 186 pages. GPO stock #052-003-01029-1; $7.00.

Technology and Structural Unemployment: Reemploying Displaced Adults

Assesses the reasons and outlook for adult displacement, evaluates the performance of existing programs to serve displaced adults, and identifies options to improve service. The report also examines the trends in international trade and their effects on worker displacement.

Technology and Structural Unemployment: Reemploying Displaced Adults. OTA-ITE-250, February 1986; 448 pages. GPO stock #052-003-01017-8; $15.00.

Summary available from OTA Publishing Office.

Focuses on problems and performance of existing Federal support for displaced homemakers.

Interim Report—Displaced Homemakers: Programs and Policy. OTA-ITE-292, October 1985; 44 pages. GPO stock #052-003-01011-9; $1.75. NTIS order #PB 86-120 276/AS.

U.S. Import Vulnerability

Identifies major changes in materials vulnerability that are likely to occur over the next 25 years because of advances in such fields as electronics, energy, and transportation.

Strategic Materials: Technologies To Reduce U.S. Import Vulnerability. OTA-ITE-248, May 1985, 400 pages. GPO stock #052-003-00979-0; $14.00. NTIS order #PB 86-115 367/AS.

Summary available from OTA Publishing Office.

Working Papers available from NTIS.

Superfund Strategy

Examines future Superfund needs and how permanent cleanups can be accomplished in a cost-effective manner for diverse types of sites; describes the interactions among many components of the complex

Superfund system; and analyzes the consequences of pursuing different strategies for implementing the program.

Superfund Strategy. OTA-ITE-252, April 1985; 292 pages. GPO stock #052-003-00994-3; $10.00.

Summary available from OTA Publishing Office.

Working Papers available from NTIS.

Wood Use: U.S. Competitiveness and Technology

Surveys the contribution of the forest products industry to the U.S. economy; the ability of the industry and the U.S. forest resource to satisfy expected domestic demands for wood; the competitiveness of U.S. forest products in world markets; and the role of technology in stretching the U.S. forest resource and providing products that satisfy domestic needs as well as international markets.

Wood Use: U.S. Competitiveness and Technology. OTA-ITE-210, August 1983; 204 pages. NTIS order #PB 84-109 925.

Volume II: Technical Report. OTA-ITE-224, November 1984; GPO stock #052-003-00975-7; $4.50. NTIS order #PB 85-156 081/AS.

Hazardous Waste Control

Assesses the criteria for defining hazardous waste and for judging the relative health and environmental hazards of a given waste; evaluates technologies for cleaning up current waste disposal sites that are hazardous to health and the environment; assesses technologies and approaches for the safe treatment, storage, or disposal of hazardous waste; and examines technologies and approaches for reducing the volume of hazardous waste.

Technologies and Management Strategies for Hazardous Waste Control. OTA-M-196, March 1983; 408 pages. NTIS order #PB 83-189 241.

Volume II, Working Papers: Parts A-D, available from NTIS.

Habitability of the Love Canal Area: An Analysis of the Technical Basis for the Decision on the Habitability of the Emergency Declaration Area—A Technical Memorandum. OTA-TM-M-13, June 1983; 60 pages. GPO stock #052-003-00917-0; $4.00. NTIS order #PB 84-114 917.

Nonnuclear Industrial Wastes: Classifying for Hazards Management —A Technical Memorandum. OTA-TM-M-9, November 1981; 36 pages. NTIS order #PB 82-134 305.

Development and Production Potential of Federal Coal Leases

Analyzes all mining activities on Federal leases, examines the development potential of outstanding leases, estimates revenues to the Federal Government, and examines the feasibility of using deep-mining technology in leased areas.

An Assessment of Development and Production Potential of Federal Coal Leases. OTA-M-150, December 1981; 476 pages. NTIS order #PB 82-149 378.

Volume II, Working Papers: Parts A-I, available from NTIS.

Federal Coal Lease Ownership

Traces the history of the 538 Federal coal leases in existence at the end of 1979, and identifies the participants in the Federal coal leasing program between 1950 and 1980.

Patterns and Trends in Federal Coal Lease Ownership, 1950-80—A Technical Memorandum. OTA-TM-M-7, March 1981; 76 pages. NTIS order #PB 81-188 484.

Technology and Steel Industry Competitiveness

Assesses how and when new technology can improve the international competitiveness of the U.S. steel industry; examines the governmental and industrial barriers to creating and adopting technological innovations.

Technology and Steel Industry Competitiveness. OTA-M-122, June 1980; 376 pages. NTIS order #PB 80-208 200.

INTERNATIONAL SECURITY & COMMERCE

Energy Technology Transfer to China

Addresses the question of whether the flow of U.S. energy technology to China can help to serve U.S. foreign policy and commercial interests.

Energy Technology Transfer to China—A Technical Memorandum. OTA-TM-ISC-30, September 1985; 124 pages. GPO stock #052-003-01007-1; $4.50. NTIS order #PB 86-113 008/AS.

Ballistic Missile Defense Technologies

Examines the potential roles of various levels of BMD deployments in U.S. national defense strategy and the potential implications of BMD for strategic stability and arms control. Also assesses the status of the new technologies applicable to BMD.

Ballistic Missile Defense Technology. OTA-ISC-254, September 1985; 336 pages. GPO stock #052-003-01008-9; $12.00. Also available in paperback from Princeton University Press, Princeton, NJ (one volume containing **Ballistic Missile Defense Technology** and **Anti-Satellite Weapons, Countermeasures, and Arms Control)** under the title *Strategic Defenses.*

Summary available from OTA Publishing Office.

Examines the range of current and potential anti-satellite weapons and countermeasures and discusses a range of potential arms control regimes.

Anti-Satellite Weapons, Countermeasures, and Arms Control. OTA-ISC-281, September 1985; 160 pages. GPO stock #052-003-01009-7; $6.00.

Summary available from OTA Publishing Office.

Civilian Space Activities

Evaluates the current status of international competition and cooperation in key areas of space technology, in space science, and for educational and scientific exchange; assesses ways in which space technologies and their products could be used as instruments of U.S. foreign policy, and examines military space activities insofar as they affect civilian programs and international commercial and political relations.

International Cooperation and Competition in Civilian Space Activities. OTA-ISC-239, June 1985; 408 pages. GPO stock #052-003-00958-7; $17.00.

Summary available from OTA Publishing Office.

This technical memorandum is designed to help determine the appropriate requirements and conditions for private sector ownership of the U.S. land remote-sensing system.

Remote Sensing and the Private Sector: Issues for Discussion—A Technical Memorandum. OTA-TM-ISC-20, March 1984; 144 pages. GPO stock #052-003-00945-5; $6.00. NTIS order #PB 84-180 777.

Discusses the issues which arose at this conference, and assesses their significance for "international competition and cooperation in civilian space activities."

UNISPACE '82: A Context for International Cooperation and Competition—A Technical Memorandum. OTA-TM-ISC-26, March 1983; 88 pages. GPO stock #052-003-00903-3; $5.50. NTIS order #PB 83-201 848.

Technology Transfer to the Middle East

Assesses international competition in Middle East technology trade during the past decade, with special attention to transfer of five types of advanced civilian technology; analyzes technology absorption by the recipients in the Islamic Middle East, and the benefits and problems associated with technology transfer for both the recipients and suppliers of technology; includes an analysis of future prospects for technology trade.

Technology Transfer to the Middle East. OTA-ISC-173, September 1984; 612 pages. GPO stock #052-003-00962-5; $17.00. NTIS order #PB 85-127 744/AS.

Summary available from OTA Publishing Office.

Arms Control in Space

Summary of findings and proceedings of a workshop held by OTA in Washington, DC, on January 30 and 31, 1984, to explore and examine possible restrictions on anti-satellite (ASAT) weapons as one aspect of space arms control.

Arms Control in Space—Workshop Proceedings. OTA-BP-ISC-28, May 1984; 68 pages. GPO stock #052-003-00952-8; $3.00. NTIS order #PB 84-198 209.

Directed Energy Missile Defense in Space

Describes and assesses current concepts for directed energy ballistic missile defense in space.

Directed Energy Missile Defense in Space—Background Paper. OTA-BP-ISC-26, April 1984; 100 pages. GPO stock #052-003-00948-0; $4.50. NTIS order #PB 84-210 111.

International Competitiveness in Electronics

Examines those factors contributing to the international competitiveness of the U.S. electronics industry, emphasizing those factors that could most readily be affected by U.S. Government policy.

International Competitiveness in Electronics. OTA-ISC-200, November 1983; 548 pages. GPO stock #052-003-00933-1; $17.00. NTIS order #PB 84-170 695.

Summary available from OTA Publishing Office.

Technology and East-West Trade

Examines the economic, military, and political implications of technology transfer to the Communist world; reviews existing policies and regulations governing this transfer; and discusses the issues and options in increased East-West trade.

Technology and East-West Trade. OTA-ISC-101, November 1979; 304 pages. NTIS order #PB 80-119 381. Also available in hardback from Allanheld, Osmun & Co., Totowa, NJ.

Reviews events since the publication of *Technology and East-West Trade* in 1979, and discusses the political, military, and commercial issues arising in congressional debate over the renewal of the Export Administration Act.

Technology and East-West Trade: An Update. OTA-ISC-209, May 1983; 108 pages. GPO stock #052-003-00908-1; $4.75. NTIS order #PB 83-234 955.

Technology and Soviet Energy Availability

Analyzes and identifies various U.S. and other Western energy technologies that might be of value to the Soviet Union. Examines the impact of their availability on Soviet energy production to 1990 and discusses the policy options available to the Soviets by way of other Warsaw Pact countries, the Western importers of Soviet energy, and the Middle East.

Technology and Soviet Energy Availability. OTA-ISC-153, November 1981; 405 pages. NTIS order #PB 82-133 456. Also available in hardback from Westview Press, Inc., Boulder, CO.

MX Missile Basing

Assesses the technical feasibility, strategic utility, cost, impact on the region, and future consequences of various MPS-basing modes, and of alternative missile-basing modes that merit serious attention.

MX Missile Basing. OTA-ISC-140, September 1981; 336 pages. GPO stock #052-003-00849-1; $9.00. NTIS order #PB 82-108 077.

U.S. Industrial Competitiveness

Compares the international competitiveness of three U.S. industries —steel, electronics, and automobiles—and evaluates the prospects for better integration of policies affecting industries in the United States.

U.S. Industrial Competitiveness—A Comparison of Steel, Electronics, and Automobiles. OTA-ISC-135, July 1981; 208 pages. NTIS order #PB 81-235 749.

Effects of Nuclear War

Examines the social, economic, political, and health effects of various levels of nuclear attacks on the United States and the Soviet Union. Also identifies the large areas of uncertainty regarding what those effects would be.

The Effects of Nuclear War. OTA-NS-89, May 1979; 152 pages. GPO stock #052-003-00668-5; $6.50. NTIS order #PB 296 946. Also available in hardback from Allanheld, Osmun & Co., Totowa, NJ. A somewhat modified version is available in paperback from Cheshire Books (Kampmann & Co., dist., New York, NY) under the title "The Day After Midnight: The Effects of Nuclear War."

BIOLOGICAL APPLICATIONS

Life-Sustaining Technologies and the Elderly

Reviews and evaluates the appropriate use of life-sustaining technologies, quality of life, patients' rights, surrogate decisionmaking, and the allocation of Federal health care resources.

Life-Sustaining Technologies and the Elderly. OTA-BA-306. In progress, contact OTA Publishing Office.

Alternatives to Animal Use

Examines the current patterns of acquisition and use of animals in the different disciplines of biomedical and behavioral research, toxicity testing, and education. Evaluates the feasibility and cost of developing alternatives to animal use in these areas. Analyzes regulatory requirements in both the United States and selected foreign countries.

Alternatives to Animal Use in Research, Testing, and Education. OTA-BA-273, February 1986; 448 pages. GPO stock #052-003-01012-7; $16.00.

Summary available from OTA Publishing Office.

Volume II, Working Papers, available from NTIS.

Reproductive Health Hazards in the Workplace

Evaluates the current scientific knowledge base with respect to reproductive hazards in order to outline policy options for the management of reproductive hazards in the workplace.

Reproductive Health Hazards in the Workplace. OTA-BA-266, December 1985; 436 pages. GPO stock #052-003-01001-1; $15.00.

Summary available from OTA Publishing Office.

Volume II, Working Papers, available from NTIS.

Technology and Aging in America

Assesses the impact of technology in four areas—health and life sciences, employment, housing and public services, and international aspects.

Technology and Aging in America. OTA-BA-264, June 1985; 504 pages. GPO stock #052-003-00970-6; $17.00. NTIS order #PB 86-116 514/AS.

Summary available from OTA Publishing Office.

Focuses on the need for more public information about technologies that compensate for hearing loss and improved service delivery systems that are adapted to the characteristics of the elderly.

Management of Hearing Impairment in the Elderly—Background Paper. OTA-BP-BA-30. In progress, contact OTA Publishing Office.

Focuses on the status of basic neuroscience research, and investigates not only the current status and potential medical applications,

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but also includes broad social and ethical issues that might arise from such research.

Impacts of Neuroscience—Background Paper. OTA-BP-BA-24, March 1984; 36 pages. GPO stock #052-003-00946-3; $2.50. NTIS order #PB 84-196 716.

Volume II, Working Papers, available from NTIS.

Human Gene Therapy

Assesses the state of the art of technology involved with treating human genetic effects. Describes techniques and the diseases likely to be treated in the near future; discusses possible long-term effects on human genetic diseases and the human gene pool, and sketches some ethical dilemmas.

Human Gene Therapy—Background Paper. OTA-BP-BA-32, December 1984; 116 pages. GPO stock #052-003-00983-8; $5.50. NTIS order #PB 85-206 076/AS.

Commercial Biotechnology

Describes the state of the art of biotechnology as applied to industries involved in agriculture, and production of pharmaceuticals and chemicals; environmental applications in such areas as mining, pollution control, oil recovery, and toxic waste treatment; and analyzes factors that will affect commercial development of biotechnology and the U.S. competitive position.

Commercial Biotechnology: An International Analysis. OTA-BA-218, January 1984; 616 pages. GPO stock #052-003-00939-1; $20.00. NTIS order #PB 84-173 608. Also available in hardcover from Pergamon Press, Inc., Elmsford, NY.

Genetic Testing

Examines questions on the technological state of the art; claimed associations between certain genetic characteristics and increased risk of harm from certain chemicals; protection to workers from discriminatory practices that is provided by existing law; and ethics and economics of genetic testing.

The Role of Genetic Testing in the Prevention of Occupational Disease. OTA-BA-194, April 1983; 244 pages. GPO stock #052-003-00906-4; $6.50. NTIS order #PB 83-233 734.

Summary available from OTA Publishing Office.

World Population and Fertility Planning Technology

Addresses issues of how government policies and programs view planned birth technologies, and how international population assistance has changed world population growth in the last 20 years. Assess-

es present and prospective birth technologies and factors determining their future development and use.

World Population and Fertility Planning Technologies: The Next 20 Years. OTA-HR-157, February 1982; 244 pages. GPO stock #052-003-00867-0; $7.50. NTIS order #PB 82-200 338.

Volume II: Working Papers: Parts A-E, available from NTIS.

Impacts of Applied Genetics

Examines the application of classical and molecular genetic technologies to micro-organisms, plants, and animals. Current developments are especially rapid in the application of genetic technologies to micro-organisms; these are studied in three industries: pharmaceutical, chemical, and food.

Impacts of Applied Genetics: Micro-Organisms, Plants, and Animals. OTA-HR-132, April 1981; 332 pages. GPO stock #052-003-00805-0; $9.00. NTIS order #PB 81-206 609. Also available in hardback under the title "Genetic Technologies: A New Frontier" from Westview Press, Inc., Boulder, CO.

Summary available from OTA Publishing Office.

Volume II: Appendixes, Parts A & B, available from NTIS.

FOOD & RENEWABLE RESOURCES

Technologies To Maintain Biological Diversity

Examines the state of existing biological data and proposes ways to improve the use of such data by Federal agencies for the purpose of maintaining biological diversity.

Assessing Biological Diversity in the United States: Data Considerations—Background Paper #2. OTA-BP-F-39, March 1986; 80 pages. GPO stock #052-003-01031-3; $2.75.

Examines the contributions of grassroots organizations and individuals by illustrating the diversity and range of selected efforts and indicating the present and potential impact of these activities on the overall effort to maintain biological diversity.

Grassroots Conservation of Biological Diversity in the United States —Background Paper #1. OTA-BP-F-38, February 1986; 72 pages. GPO stock #052-003-01019-4; $3.50.

Innovative Biological Technologies for Lesser Developed Countries

Workshop proceedings held in November 1980. Discusses the U.S. Agency for International Development and its role in using, promoting, and developing innovative biological technologies to help lesser developed countries enhance the productivity of their soils, reduce their need for costly chemical fertilizers, and increase food supplies.

Innovative Biological Technologies for Lesser Developed Countries—Workshop Proceedings. OTA-BP-F-29, July 1985; 252 pages. GPO stock #052-003-01003-8; $9.00. NITS order #PB 86-121 738/AS.

Technologies To Benefit Agriculture and Wildlife

Workshop proceedings presenting a broad range of papers on specific technologies that could benefit both agricultural production and wildlife habitat requirements on private lands. Also describes some constraints and opportunities to integrate agriculture and wildlife concerns and discusses policy opportunities for improved agriculture and wildlife integration.

Technologies To Benefit Agriculture and Wildlife—Workshop Proceedings. OTA-BP-F-34, May 1985; 148 pages; GPO stock #052-003-00996-0; $5.00. NTIS order #PB 85-239 747/AS.

Technology, Public Policy, and the Changing Structure of American Agriculture

Focuses on future and emerging technologies in other animal, plant, chemical, mechanization, and information areas and their implications for agricultural structure. Also explores linkages between policy and

structure for a clearer understanding of the factors that influence the evolution of the agricultural sector.

Technology, Public Policy, and the Changing Structure of American Agriculture. OTA-F-285, March 1986; 380 pages. GPO stock #052-003-01018-6; $13.00.

Summary available from OTA Publishing Office.

Special report focusing on three main policy areas of the reauthorization of the Agriculture and Food Act of 1981: commodity, credit, and research and extension.

Technology, Public Policy, and the Changing Structure of American Agriculture: A Special Report for the 1985 Farm Bill. OTA-F-272, March 1985; 100 pages. GPO stock #052-003-00990-1; $3.75.

Africa Tomorrow

Defines various issues in technology development, technology transfer, and technical assistance which could be considered as an effective strategy to assist African countries in enhancing their food production.

Africa Tomorrow: Issues in Technology, Agriculture, and U.S. Foreign Aid—A Technical Memorandum. OTA-TM-F-31, December 1984; 148 pages. GPO stock #052-003-00985-4; $5.50. NTIS order #PB 85-238 624/AS.

Technology, Renewable Resources, and American Crafts

Summarizes technology's effects on crafts (some of which are folk and fine art) that use renewable resources as raw materials.

Technology, Renewable Resources, and American Crafts—Background Paper. OTA-BP-F-27, April 1984, 60 pages. GPO stock #052-003-00951-0; $3.00. NTIS order #PB 84-222 421.

Sustaining Tropical Forest Resources

Examines the importance of tropical forests to the United States and the world, reviews the rates and causes of deforestation and forest degradation, and assesses how U.S. technology could help alleviate this resource problem.

Technologies To Sustain Tropical Forest Resources. OTA-F-214, March 1984; 352 pages. GPO stock #052-003-00943-9; $10.00. NTIS order #PB 84-175 637.

Sustaining Tropical Forest Resources: Reforestation of Degraded Lands—Background Paper #1. OTA-BP-F-18, May 1983; 56 pages. NTIS order #PB 84-104 041.

Sustaining Tropical Forest Resources: U.S. and International Institutions—Background Paper #2. OTA-BP-F-19, May 1983; 68 pages. GPO stock #052-003-00910-2; $4.50. NTIS order #PB 84-104 058.

Water and Agriculture in U.S. Arid/Semiarid Lands

Assesses existing and emerging water-related technologies for their ability to support long-term productivity of arid/semiarid agricultural plants and animals in the context of institutional factors, water supply/use relationships, and the characteristics of the renewable natural resource base on which agriculture depends.

Water-Related Technologies for Sustainable Agriculture in U.S. Arid/Semiarid Lands. OTA-F-212, October 1983; 412 pages. GPO stock #052-003-00930-7; $8.50. NTIS order #PB 84-172 667.

Summary available from OTA Publishing Office.

Water-Related Technologies for Sustainable Agriculture in Arid/Semiarid Lands: Selected Foreign Experience—Background Paper. OTA-BP-F-20, May 1983; 84 pages. GPO stock #052-003-00911-1; $4.50. NTIS order #PB 84-102 912.

Plants: The Potentials for Extracting Protein, Medicines, and Other Useful Chemicals

Identifies technological opportunities and constraints for commercially developing protein, pharmaceuticals, chemicals, and other associated extracts from plants.

Plants: The Potentials for Extracting Protein, Medicines, and Other Useful Chemicals—Workshop Proceedings. OTA-BP-F-23, September 1983; 252 pages. GPO stock #052-003-00929-3; $6.50. NTIS order #PB 84-114 743.

U.S. Cropland and Rangeland Productivity

Assesses the effects of currently used technologies on the capacity of the cropland and rangeland resource base to sustain high levels of production. Evaluates emerging technologies that might be used to reverse adverse effects of some of the established technologies.

Impacts of Technology on U.S. Cropland and Rangeland Productivity. OTA-F-166, August 1982; 268 pages. NTIS order #PB 83-125 013.

Volume II, Background Papers: Parts A-F, available from NTIS.

U.S. Food and Agricultural Research

Analyzes the scientific base for establishing national, regional, and local research problems and the role of Federal, State, and private institutions in solving these problems. Evaluates methods in identifying priority research areas, the adequacy of present basic and applied research efforts, and public policy options.

An Assessment of the United States Food and Agricultural Research System. OTA-F-155, December 1981; 212 pages. NTIS order #PB 82-170 572.

Volume II, Commissioned Papers: Parts A-C, available from NTIS.

Agricultural Postharvest Technology and Marketing Economics Research—A Technical Memorandum. OTA-TM-F-21, April 1983; 120 pages. GPO stock #052-003-00907-2; $5.00. NTIS order #PB 83-232 835.

HEALTH

Technologies for Detecting Heritable Mutations

Examines the scientific basis of new technologies, their current status, and potential improvement for predicting the mutagenic risk of chemicals and physical agents.

Technologies for Detecting Heritable Mutations. OTA-H-298. In progress, contact OTA Publishing Office.

Indian Health Care

Analyzes the quality and adequacy of data on Indian health status; identifies the types and distribution of technologies and services available through the Indian Health Service and other providers; determines the desirable range and methods of delivery of health-related technologies and services; and develops policy options to improve the selection, provision, financing, and delivery of technologies and services to Indian populations.

Indian Health Care. OTA-H-290. In progress, contact OTA Publishing Office.

Nurse Practitioners, Certified Nurse Midwives, and Physician Assistants

Examines the costs, effectiveness, and payment status of nurse practitioners, certified nurse-midwives, nurse clinicians, physician assistants, and Medex in the United States.

Nurse Practitioners, Certified Nurse Midwives, and Physician Assistants: Quality, Access, Economic, and Payment Issues. OTA-HCS-37. In progress, contact OTA Publishing Office.

Mental Health Services for Children

Examines mental health services presently available to children; the effectiveness of the various mental health treatments and the appropriate mix of mental health services; the roles third-party coverage and the Federal and State governments play in the provision of mental health services; and identifies areas for further research.

Mental Health Services for Children—Background Paper. OTA-BP-H-33. In progress, contact OTA Publishing Office.

Payment for Physician Services: Strategies for Medicare

Examines alternative methods for paying for physician services and the effect of physician payment methods on the use of medical technology.

Payment for Physician Services: Strategies for Medicare. OTA-H-294, February 1986; 288 pages. GPO stock #052-003-01020-8; $9.00.

Summary available from OTA Publishing Office.

Case Study #36: Effects of Federal Policies on Extracorporeal Shock Wave Lithotripsy. OTA-HCS-36. In progress, contact OTA Publishing Office.

Medicare's Prospective Payment System: Strategies for Evaluating Cost, Quality, and Medical Technology

Examines Medicare's hospital payment system—prospective payment based on diagnosis-related groups (DRGs), and the impact of the development and use of medical technology. The assessment identifies the range of possible effects related to medical technology and its use; evaluation measures; ongoing or planned monitoring and evaluation activities; shortcomings and gaps in these activities; and develops an overall design for evaluation, including timing, methodology, priorities, and the role of current or planned efforts.

Medicare's Prospective Payment System: Strategies for Evaluating Cost, Quality, and Medical Technology. OTA-H-262, October 1984; 248 pages. GPO stock #052-003-01010-1; $9.00. Also available from Springer Publishing Co., Inc., New York, NY.

Summary available from OTA Publishing Office.

Biomedical Research for Tropical Diseases

Examines the status of biomedical and epidemiological research and related technology development in the area of tropical diseases, identifies areas of promise for continued or increased funding, and presents a series of options for making decisions about research funding, technology development and testing, and other policies regarding tropical diseases.

Status of Biomedical Research and Related Technology for Tropical Diseases. OTA-H-258, September 1985; 296 pages. GPO stock #052-003-00987-1; $11.00.

Summary available from OTA Publishing Office.

Reviews the quality and relevance of activities at the Gorgas Memorial Laboratory (GML), based on Gorgas's publishing record, an OTA-commissioned survey of GML's scientific reputation, a critical review of recent articles and current manuscripts, a comparison of GML's areas of effort with health problems in tropical America and with scientific opportunity, a review of past scientific evaluations of GML, and an examination of its record of competing for grants and contracts.

Quality and Relevance of Research and Related Activities at the Gorgas Memorial Laboratory—A Technical Memorandum. OTA-TM-H-18, August 1983; 96 pages.

Preventing Illness and Injury in the Workplace

Develops information about research and development, diffusion, application, and evaluation of workplace control technologies. Engineering controls, worker education programs, personal protective devices, and interrelationships between them and their role in worker protection are evaluated.

Preventing Illness and Injury in the Workplace. OTA-H-256, April 1985; 436 pages. GPO stock #052-003-00978-1; $15.00. NTIS order #PB 86-115 334/AS. Also available in hardcover from UNIPUB, New York, NY.

Summary available from OTA Publishing Office.

Potential Office Hazards and Controls. A contractor report. September 1984; 185 pages. NTIS order #PB 85-139 210.

Volume II: Working Papers: Parts A-C, available from NTIS.

Review of the Public Health Services Response to AIDS

Reviews the activities of the Public Health Service response to AIDS and evaluates the planning, resources and staffing of PHS's efforts to control AIDS.

Review of the Public Health Service's Response to AIDS—A Technical Memorandum. OTA-TM-H-24, February 1985; 168 pages. GPO stock #052-003-00984-6; $5.50. NTIS order #PB 85-246 668/AS.

Blood Policy and Technology

Assesses technologies affecting the availability, users, and risks of blood. Areas assessed are: blood collection, processing, storage, and distribution; identification, isolation, production, and use of blood components; blood substitutes; and identification and prevention of blood-transmitted diseases and other risks.

Blood Policy and Technology. OTA-H-260, January 1985; 248 pages. GPO stock #052-003-00977-3; $7.50. NTIS order #PB 85-234 870/AS.

Summary available from OTA Publishing Office.

Federal Policies and the Medical Devices Industry

Develops information about the nature of firms that manufacture medical technologies, conducts case studies of selected medical devices, and examines present and proposed Federal policies that influence the medical devices industry and the cost and effectiveness of medical devices.

Federal Policies and the Medical Devices Industry. OTA-H-229, October 1984; 260 pages. GPO stock #052-003-00965-0; $7.00. NTIS order #PB 85-199 552/AS. Also available in hardback from Pergamon Press, inc., Elmsford, NY.

Summary available from OTA Publishing Office.

Case Study #27: Nuclear Magnetic Resonance Imaging Technology: A Clinical, Industrial, and Policy Analysis. OTA-HCS-27, September 1984; 156 pages. GPO stock #052-003-00964-1; $5.50. NTIS order #PB 85-146 207/AS.

Case Study #29: Boston Elbow. OTA-HCS-29, November 1984; 44 pages. GPO stock #052-003-00972-2; $2.50. NTIS order #PB 85-145 936/AS.

Case Study #30: The Market for Wheelchairs: Innovation and Federal Policy. OTA-HCS-30, November 1984; 68 pages. GPO stock #052-003-00973-1; $3.00. NTIS order #PB 85-145 944/AS.

Case Study #31: Contact Lenses. OTA-HCS-31, December 1984; 76 pages. GPO stock #052-003-00981-1; $3.00. NTIS order #PB 85-204 451/AS.

Case Study #32: Hemodialysis Equipment. OTA-HCS-32, December 1984; 80 pages. GPO stock #052-003-00982-0; $3.00. NTIS order #PB 85-154 953/AS.

Case Study #33: Technologies for Managing Urinary Incontinence. OTA-HCS-33, July 1985; 76 pages. GPO stock #052-003-00999-4; $3.25. NTIS order #PB 85-240 208/AS.

Procurement and Evaluation of Medical Devices by the Veterans Administration—A Technical Memorandum. OTA-TM-H-16, February 1985; 116 pages. GPO stock #052-003-00988-9; $4.25.

Abstracts of Case Studies in the Health Technology Case Study Series

Contains a description of the OTA "Health Technology Case Study Series" and abstracts of each of the case studies published.

Abstracts of Case Studies in Health Technology Case Study Series. OTA-P-225, February 1985; 56 pages. Available from OTA Publishing Office.

Medical Technology and Costs of the Medicare Program

Examines a range of policies to contain Medicare costs and impacts on the adoption and use of medical technology.

Medical Technology and Costs of the Medicare Program. OTA-H-227, July 1984; 232 pages. GPO stock #052-003-00957-9; $7.50. NTIS order #PB 85-146 215/AS.

Summary available from OTA Publishing Office.

Analyzes a broad range of mechanisms to reduce or limit Medicare costs related to medical technology. Includes case studies, technical memoranda, and background papers of particular medical technologies.

Case Study #22: The Effectiveness and Costs of Alcoholism Treatment. OTA-HCS-22, March 1983; 100 pages. GPO stock #052-003-00902-1; $5.50. NTIS order #PB 83-192 492.

Case Study #23: The Safety, Efficacy, and Cost Effectiveness of Therapeutic Apheresis. OTA-HCS-23, July 1983; 168 pages. NTIS order #PB 84-114 842.

Case Study #24: Variations in Hospital Length of Stay: Their Relationship to Health Outcomes. OTA-HCS-24, August 1983; 88 pages. GPO stock #052-003-00922-6; $4.50. NTIS order #PB 84-111 483.

Diagnosis Related Groups (DRGs) and the Medicare Program: Implications for Medical Technology—A Technical Memorandum. OTA-TM-H-17, July 1983; 84 pages. GPO stock #052-003-00919-6; $4.50. NTIS order #PB 84-111 525.

Working Paper: Diagnosis Related Groups (DRGs) and the Medicare Program: Using Diagnosis Related Groups in Hospital Payment—The New Jersey Experience. NTIS order #PB 84-193 606.

Case Study #28: Intensive Care Units (ICUs): Clinical Outcomes, Costs, and Decisionmaking. OTA-HCS-28, November 1984; 100 pages. GPO stock #052-003-00971-4; $4.25. NTIS order #PB 85-145 928/AS.

Case Study #34: The Cost Effectiveness of Digital Subtraction Angiography in the Diagnosis of Cerebrovascular Disease. OTA-HCS-34, May 1985; 68 pages. GPO stock #052-003-00998-6; $2.50. NTIS order #PB 85-241 115/AS.

Case Study #35: Efficacy, Safety, and Cost Effectiveness of Continuous Ambulatory Peritoneal Dialysis. OTA-HCS-35, September 1985; 76 pages. GPO stock #052-003-01002-0; $3.25.

Scientific Validity of Polygraph Testing

Presents the results of the OTA review and assessment of the scientific evidence on the validity of polygraph testing.

Scientific Validity of Polygraph Testing: A Research Review and Evaluation—A Technical Memorandum. OTA-TM-H-15, November 1983; 140 pages. GPO stock #052-003-00934-0; $5.50. NTIS order #PB 84-181 411.

Randomized Clinical Trials

Brings together the literature and current views about the actual and potential role of randomized clinical trials in decisionmaking about medical technologies.

The Impact of Randomized Clinical Trials on Health Policy and Medical Practice—Background Paper. OTA-BP-H-22, August 1983; 112 pages. NTIS order #PB 84-114 560.

Premanufacture Notices

OTA examined 740 Premanufacture Notices, and this study reports the results of analyzing those notices for the presence of the information specified by the Toxic Substances Control Act and for additional relevant information.

The Information Context of Premanufacture Notices—Background Paper. OTA-BP-H-17, April 1983; 92 pages. NTIS order #PB 83-241 059.

Postmarketing Surveillance of Prescription Drugs

Describes the drug approval process, the history and objectives of postmarketing surveillance, the methods employed to accomplish it, and current activities in postmarketing surveillance.

Postmarketing Surveillance of Prescription Drugs. OTA-H-189, November 1982; 80 pages. GPO stock #052-003-00893-9; $5.00. NTIS order #PB 83-173 625.

Proposals To Increase Competition in Health Care

Focuses on proposals for increased cost-sharing by patients and greater competition among plans.

Medical Technology Under Proposals To Increase Competition in Health Care. OTA-H-190, October 1982; 156 pages. NTIS order #PB 83-164 046.

Strategies for Medical Technology Assessment

Focuses on the flow of information that is central to an effective assessment system. Critiques the current assessment system with respect to identifying medical technologies for assessment; developing and synthesizing information about such technologies' health, economic, and social effects; and disseminating this information to health care decisionmakers.

Strategies for Medical Technology Assessment. OTA-H-181, September 1982; 228 pages. NTIS order #PB 83-113 274.

MEDLARS and Health Information Policy—A Technical Memorandum. OTA-TM-H-11, September 1982; 152 pages. GPO stock #052-003-00891-2; $6.50. NTIS order #PB 83-168 658.

Technology and Handicapped People

Examines the specific factors that affect the research and development, evaluation, diffusion and marketing, delivery, use, and financing of technologies directly related to disabled people.

Technology and Handicapped People. OTA-H-179, May 1982; 216 pages. NTIS order #PB 83-172 056. Also available in hardback from Springer Publishing Co., Inc., New York, NY. Also available in "talky book" special cassette form from the Library of Congress.

Summary available in braille from the Library of Congress.

Case Study #25: Technology and Learning Disabilities. OTA-HCS-25, December 1983; 72 pages. GPO stock #052-003-00936-6; $3.00. NTIS order #PB 84-184 043.

Case Study #26: Assistive Devices for Severe Speech Impairments. OTA-HCS-26, December 1983; 64 pages. NTIS order #PB 84-175 371.

Mandatory Passive Restraint Systems in Automobiles: Issues and Evidence—Background Paper #1. OTA-BP-H-15, September 1982; 52 pages. NTIS order #PB 83-159 822.

Selected Telecommunications Devices for Hearing-Impaired Persons—Background Paper #2. OTA-BP-H-16, December 1982; 28 pages. GPO stock #052-003-00898-0; $3.50. NTIS order #PB 83-169 292.

Working Papers 1-6 available from NTIS.

Technology Transfer at the National Institutes of Health

Presents general information on biomedical R&D and its relationship to technology transfer, and on the processes of transferring medical technology and of assessing that technology. Discusses the current technology transfer activities of NIH and contains detailed looks at two specific institutes.

Technology Transfer at the National Institutes of Health—A Technical Memorandum. OTA-TM-H-10, March 1982; 188 pages. NTIS order #PB 82-202 904.

Cost Effectiveness of Influenza Vaccine

Examines the cost effectiveness of influenza vaccine using data on health effects and medical care costs produced by influenza vaccine from 1972 to 1978. Suggests ways to increase the use of the vaccine.

Cost-Effectiveness Analysis of Influenza Vaccine. OTA-H-152, December 1981; 68 pages. NTIS order #PB 82-178 492.

Cancer Risks From the Environment

Examines four major issues: estimates of the percentage of cancer due to environmental exposure, technologies used to test for carcinogenicity, methods used for extrapolating data from animals to humans, and regulatory pathways for controlling carcinogens.

Assessment of Technologies for Determining Cancer Risks From the Environment. OTA-H-138, June 1981; 244 pages. GPO stock #052-003-00832-7; $7.50. NTIS order #PB 81-235 400. Also available in hardback under the title: "Cancer Risks: Assessing and Reducing the Dangers in Our Society" from Westview Press, Inc., Boulder, CO.

Summary available from OTA Publishing Office.

Cost Effectiveness of Medical Technology

Analyzes the feasibility, implications, and usefulness of cost-effectiveness analysis (CEA) and cost-benefit analysis (CBA) in health care decisionmaking, including the current and potential use of CEA/CBA or related techniques in six health care activities: reimbursement programs, Professional Standards Review Organizations, health planning, market approval for drugs and medical devices, R&D programs, and health maintenance organizations.

The Implications of Cost-Effectiveness Analysis of Medical Technology. OTA-H-126, August 1980; 220 pages. NTIS order #PB 80-216 864.

Summary available from OTA Publishing Office.

Background Paper #1: Methodological Issues and Literature Review. OTA-BP-H-5, September 1980; 140 pages. NTIS order #PB 81-144 602.

Background Paper #2: Case Studies of Medical Technologies.—17 case studies; call for information.

Background Paper #3: The Efficacy and Cost Effectiveness of Psychotherapy. OTA-BP-H-6, October 1980; 96 pages. NTIS order #PB 81-144 610.

Background Paper #4: The Management of Health Care Technology in Ten Countries. OTA-BP-H-7, October 1980; 224 pages. NTIS order #PB 81-144 628.

Background Paper #5: Assessment of Four Common X-Ray Procedures. OTA-BP-H-14, April 1982; 64 pages. GPO stock #052-003-00872-6; $4.50. NTIS order #PB 83-165 506.

Federal Vaccine and Immunization Policies

Analyzes Federal policies related to four areas of vaccine and immunization activities: financing vaccine research and development, eval-

uating vaccine safety and efficacy, reimbursing for vaccine use, and compensating for vaccine-related injuries. Uses case studies involving pneumococcal vaccine.

Update of Federal Activities Regarding the Use of Pneumococcal Vaccine. OTA-TM-H-23, May 1984; 52 pages. GPO stock #052-003-00955-2; $2.50. NTIS order #PB 85-128 155/AS.

A Review of Selected Federal Vaccine and Immunization Policies Based on Case Studies of Pneumococcal Vaccine. OTA-H-96, September 1979; 208 pages. NTIS order #PB 80-116 106.

Compensation for Vaccine-Related Injuries—A Technical Memorandum. OTA-TM-H-6, November 1980; 108 pages. NTIS order #PB 81-163 909.

COMMUNICATION & INFORMATION TECHNOLOGIES

Intellectual Property Rights in an Age of Electronics and Information

Identifies and analyzes trends in the development of the new information technologies to determine those areas where there might be gaps in the laws and practices of intellectual property.

Intellectual Property Rights in an Age of Electronics and Information. OTA-CIT-302, April 1986; 299 pages. GPO stock #052-003-01036-4; $15.00.

Summary available from OTA Publishing Office.

Federal Government Information Technology

Addresses key trends and issues in Federal information technology management, planning, innovation, and procurement; information systems security and computer crime; computer modeling, decision support, and government foresight; and electronic databases and dissemination of government information.

Federal Government Information Technology: Electronic Record Systems and Individual Privacy. OTA-CIT-296. In progress, contact OTA Publishing Office.

Federal Government Information Technology: Management, Security, and Congressional Oversight. OTA-CIT-297. February 1986; 192 pages. GPO stock #052-003-01026-7; $7.50.

Federal Government Information Technology: Electronic Surveillance and Civil Liberties. OTA-CIT-293, October 1985; 80 pages. GPO stock #052-003-01015-1; $3.00. NTIS order #PB 86-123 239/AS.

Automation of America's Offices

Analyzes plausible trends in office automation over the next decade; examines the social and economic impacts of its use; and examines the effects of Federal policy options on the further development and use of office technologies in the public and private sectors.

Automation of America's Offices. OTA-CIT-287, December 1985; 360 pages. GPO stock #052-003-01013-5; $13.00.

Summary available from OTA Publishing Office.

Information Technology Research and Development

Analyzes Federal policy, both directly by trends in R&D support and indirectly by tax, antitrust, regulatory, copyright, and education policy.

Information Technology R&D: Critical Trends and Issues. OTA-CIT-268, February 1985; 352 pages. GPO stock #052-003-00976-5; $9.50.

NTIS order #PB 85-245 660/AS. Also available in hardcover from Pergamon Press, Inc., Elmsford, NY.

Summary available from OTA Publishing Office.

Describes the current state of microelectronics research and development by examining the technologies emerging from R&D efforts and the range of institutional support for R&D.

Microelectronics Research and Development—Background Paper. OTA-BP-CIT-40, March 1986; 44 pages. GPO stock #052-003-01027-5; $1.75.

Assesses the progress in Federal efforts to make supercomputers available to the U.S. scientific research community, and examines the issues of impacts on technology development, facility management, software development, and networking.

Scientific Use of Supercomputers—Background Paper. OTA-BP-CIT-31, March 1986; 36 pages. GPO stock #052-003-01032-1; $1.00.

Financial Services Systems

Examines technologies that are likely to be employed in delivering financial services in the future; the nature of the services that may be provided; and alternative structures of the financial services industry that may emerge as a result of applying new and existing technologies, particularly as they interact with Federal policy.

Effects of Information Technology on Financial Services Systems. OTA-CIT-202, September 1984; 284 pages. GPO stock #052-003-00961-7; $7.50. NTIS order #PB 85-152 619/AS.

Review of Postal Automation Strategy

Reviews the U.S. Postal Service (USPS) decision to utilize single-line optical character readers (OCRs) instead of multi-line OCRs, and to conduct a comparative technical and economic analysis of the two technologies in the context of the overall postal automation program.

Review of Postal Automation Strategy: A Technical and Decision Analysis—A Technical Memorandum. OTA-TM-CIT-22, June 1984; 104 pages. NTIS order #PB 85-127 843/AS.

Computerized Manufacturing Automation

Assesses trends and the state of R&D in computerized manufacturing technologies over this decade; the development of industries producing computerized manufacturing equipment, software, and services; the potential utility of computerized automation for various categories of manufacturing industries that might use it; impacts on employment; implications for education and training; and analyzes the impacts of Federal policy options on the development and use of computerized automation systems in U.S. manufacturing.

Computerized Manufacturing Automation: Employment, Education, and the Workplace. OTA-CIT-235, April 1984, 472 pages. GPO stock #052-003-00949-8; $14.00. NTIS order #PB 84-196 500.

Summary available from OTA Publishing Office.

Volume II: Working Papers: Parts A-C, available from NTIS.

Automation and the Workplace: Selected Labor, Education, and Training Issues—A Technical Memorandum. OTA-TM-CIT-25, March 1983; 112 pages. NTIS order #PB 83-191 320.

Technology and Education

Provides an overview of the issues relating to the educational applications of the new information technologies. It examines both the demands that the information revolution will make on education and the opportunities afforded by the new information technologies to meet those demands.

Informational Technology and Its Impact on American Education. OTA-CIT-187, November 1982; 280 pages. GPO stock #052-003-00888-2; $8.00. NTIS order #PB 83-174 664.

Radiofrequency Use and Management

Analyzes the record of an 11-week conference held in Geneva, Switzerland, by major world representatives to review and adjust the global allocation of uses of the radio magnetic spectrum. Identifies the conference's major results and projected impacts and the role of U.S. participation in this and future conferences.

Radiofrequency Use and Management: Impacts From the World Administrative Radio Conference of 1979. OTA-CIT-163, January 1982; 164 pages. NTIS order #PB 82-177 536.

Societal Impacts of National Information Systems

Includes an overview study—Computer-Based National Information Systems—and three information system case studies—National Crime Information Center of the FBI; electronic mail and message systems; and electronic funds transfer.

Computer-Based National Information Systems: Technology and Public Policy Issues. OTA-CIT-146, September 1981; 168 pages. NTIS order #PB 82-126 681. Also available in hardcover from Petrocelli Books, Inc., Princeton, NJ.

An Assessment of Alternatives for a National Computerized Criminal History System. OTA-CIT-161, October 1982; 208 pages. NTIS order #PB 83-166 678.

Implications of Electronic Mail and Message Systems for the U.S. Postal Service. OTA-CIT-183, August 1982; 116 pages. NTIS order #PB 83-265 017.

Selected Electronic Funds Transfer Issues: Privacy, Security, and Equity—Background Paper. OTA-BP-CIT-12, March 1982; 80 pages. NTIS order #PB 82-202 532.

Volume II: Working Papers: Parts A-G, available from NTIS.

OCEANS & ENVIRONMENT

Marine Applications for Fuel Cell Technology

Assesses the state-of-the-art of fuel cell technologies, and identifies and evaluates potential marine uses for fuel cells.

Marine Applications for Fuel Cell Technology—A Technical Memorandum. OTA-TM-O-37, February 1986; 40 pages. GPO stock #052-003-01021-6; $1.50.

Oil and Gas Technologies in the Arctic and Deepwater

Explores the range of technologies required for exploration and development of offshore energy resources and assesses associated economic factors and financial risks. Also evaluates the environmental factors related to energy activities in frontier regions and considers important government regulatory and service programs.

Oil and Gas Technologies in the Arctic and Deepwater. NTIS order OTA-O-270, May 1985; 236 pages. GPO stock #052-003-00995-1; $8.50. NTIS order #PB 86-119 948/AS.

Summary available from OTA Publishing Office.

Protecting Groundwater From Contamination

Provides comprehensive examination of the nature and extent of groundwater contamination, present efforts and capabilities to deal with groundwater contamination problems, and prospects for protecting groundwater quality. Key Federal policy options are also addressed.

Protecting the Nation's Groundwater From Contamination. OTA-O-233, October 1984; 244 pages. GPO stock #052-003-00966-8; $7.50. NTIS order #PB 85-154 201/AS.

Summary available from OTA Publishing Office.

Volume II: Protecting the Nation's Groundwater From Contamination. OTA-O-276, October 1984; 264 pages. GPO stock #052-003-00974-9, $7.50. NTIS order #PB 85-154 201/AS.

Acid Rain and Transported Air Pollutants

Characterizes the potential benefits of acting now to abate long-range transport air pollution and the potential costs of action that may be premature.

Acid Rain and Transported Air Pollutants: Implications for Public Policy. OTA-O-204, June 1984; 324 pages. GPO stock #052-003-00956-1; $9.50. NTIS order #PB 84-222 967. Also available in hardcover from UNIPUB, New York, NY.

Summary available from OTA Publishing Office.

Wetlands

Presents the findings and conclusions of OTA's analysis of approaches to wetlands use; describes the ecological values of wetlands, trends in wetlands use, and the effect of Federal and State wetland programs on wetlands.

Wetlands: Their Use and Regulation. OTA-O-206, March 1984; 208 pages. GPO stock #052-003-00944-7; $8.00. NTIS order #PB 84-175 918.

Summary available from OTA Publishing Office.

Volume II: Case Studies: Parts 1-7, available from NTIS.

Maritime Trade and Technology

Traces prevailing conditions and dominant trends that are important to the way the Federal Government assumes its responsibility in developing and implementing policy; contains analyses of the world outlook for trade, shipping, and shipbuilding; identifies where the United States participates and does not participate in these enterprises.

An Assessment of Maritime Trade and Technology. OTA-O-220, October 1983; 240 pages. GPO stock #052-003-00931-5; $6.50. NTIS order #PB 84-177 781.

Summary available from OTA Publishing Office.

Alternative Approaches to Cargo Policy, Supplement. OTA-BP-O-36, July 1985; 60 pages. GPO stock #052-003-01006-2; $2.25. NTIS order #PB 85-239 887/AS.

R&D in the Maritime Industry, Supplement. OTA-BP-O-35, May 1985; 60 pages; GPO stock #052-003-00997-8; $2.50. NTIS order #PB 85-246 932/AS.

Radioactive Waste

Presents the findings and conclusions of OTA's analysis of Federal policy for the management and disposal of commercial high-level radioactive waste.

Managing the Nation's Commercial High-Level Radioactive Waste. OTA-O-171, March 1985; 356 pages. GPO stock #052-003-00980-3; $9.50. Also available in hardcover from UNIPUB, New York, NY.

Summary available from OTA Publishing Office.

Water Resources Management

Examines the potential for mathematical models to increase the effectiveness and lower the cost of water resource management; discusses ways to improve the capabilities of Federal and State agencies to apply these analytic tools.

Use of Models for Water Resources Management, Planning, and Policy. OTA-O-159, August 1982; 244 pages. NTIS order #PB 83-103 655.

Summary available from OTA Publishing Office.

Coal Exports and Port Development

Addresses four major issues that are important to Federal policy debate: estimating the potential U.S. coal export market, development of foreign trade policy, the Federal role in dredging harbors, and the outlook for alternative technologies.

Coal Exports and Port Development—A Technical Memorandum. OTA-TM-O-8, April 1981; 84 pages. NTIS order #PB 81-203 358. Also available in paperback from Cornell Maritime Press, Centreville, MD.

SCIENCE, EDUCATION, & TRANSPORTATION

Hazardous Materials Transportation: Technology Issues

Examines the issues of container technology, accident data collection and recordkeeping, and training programs for personnel involved in hazardous materials transportation or in emergency response to hazardous materials accidents.

Hazardous Materials Transportation: Technology Issues. OTA-SET-304. In progress, contact OTA Publishing Office.

Identifies issues, concerns and needs of States and localities regarding the transportation of hazardous materials. States and localities bear responsibility for responding to emergencies involving these materials in most instances.

Transportation of Hazardous Materials: State and Local Activities. OTA-SET-301, February 1986; 92 pages. GPO stock #052-003-01016-0; $3.75.

Science Policy Task Force Project Investment

Analyzes and examines the models and other analytical tools developed by economists to judge capital investments, and the applicability and use of these models and tools to government funding of scientific research.

Research Funding As An Investment: Can We Measure the Returns? —A Technical Memorandum. OTA-TM-SET-36. In progress, contact OTA Publishing Office.

Traces changes in the historical treatment of research in the United States, compares effects of direct and indirect regulation on various types of research institutions, and identifies possible new areas of concern for Congress.

The Regulatory Environment for Science—A Technical Memorandum. OTA-TM-SET-34, February 1986; 156 pages. GPO stock #052-003-0l024-1; $6.00.

Identifies predictable and anticipated changes in the size and character of the faculty and student population that supports work in science and engineering.

Demographic Trends and the Scientific and Engineering Work Force —A Technical Memorandum. OTA-TM-SET-35, December 1985; 152 pages. GPO stock #052-003-01014-3; $6.00.

U.S.-Soviet Cooperation in Space

Explores potential areas of cooperation in space, advantages and disadvantages of working together in those areas, history of cooperation, and methods of cooperation as well as areas of research.

U.S.-Soviet Cooperation in Space—A Technical Memorandum. OTA-TM-STI-27, July 1985; 116 pages. GPO stock #052-003-01004-6; $4.50. NTIS order #PB 86-114 758/AS.

Civilian Space Stations and the U.S. Future in Space

The OTA assessment of civilian space stations examines a range of options regarding the development, acquisition, use, and ownership of long-term infrastructure elements in near-Earth space. The assessment also discusses the possible long-range goals and objectives that should play a large part in determining these infrastructure elements.

Civilian Space Stations and U.S. Future in Space. OTA-STI-241, November 1984; 236 pages. GPO stock #052-003-00969-2; $7.50. NTIS order #PB 85-205 391/AS.

Summary available from OTA Publishing Office.

Salyut: Soviet Steps Toward Permanent Human Presence in Space—A Technical Memorandum. OTA-TM-STI-14, December 1983; 80 pages. GPO stock #052-003-00937-4; $4.50. NTIS order #PB 84-181 437.

Airport System Development

Assesses the technologies and methods available to increase capacity or improve service at airports and the mechanisms by which the technology can be deployed and brought to bear on the problems of civil aviation.

Airport System Development. OTA-STI-231, August 1984; 260 pages. GPO stock #052-003-00960-9; $7.50. NTIS order #PB 85-127 793/AS.

Summary available from OTA Publishing Office.

Technology, Innovation, and Regional Economic Development

Identifies and describes the efforts of State and local governments, universities, and private sector groups to promote the creation, expansion, and retention of high-technology firms and industries.

Technology, Innovation, and Regional Economic Development. OTA-STI-238, July 1984; 168 pages. GPO stock #052-003-00959-5; $5.50. NTIS order #PB 85-150 894/AS. Also available in Japanese from JETRO Publishing Co., Japan (one volume containing **BP#1: Census of State Government Initiatives for High-Technology Industrial Development** and **BP#2: Encouraging High-Technology Development**).

Census of State Government Initiatives for High-Technology Industrial Development—Background Paper. OTA-BP-STI-21, May 1983; 76 pages. GPO stock #052-003-00912-9; $4.50. NTIS order #PB 84-104 033.

Encouraging High-Technology Development—Background Paper #2. OTA-BP-STI-25, February 1984; 100 pages. GPO stock #052-003-00942-1; $4.75. NTIS order #PB 84-180 181.

U.S. Passenger Rail Technologies

Assesses high-speed passenger rail technologies, foreign experience with high-speed rail, and issues related to introduction of the technologies in the United States. Railcar manufacturing and magnetic levitation are also included.

U.S. Passenger Rail Technologies. OTA-STI-222, December 1983; 120 pages. GPO stock #052-003-00938-2; $4.75. NTIS order #PB 84-182 609.

Space Science Research

Summarizes and critiques the views of many people interested in space science, several of whom attended an OTA workshop on May 5, 1982.

Space Science Research in the United States—A Technical Memorandum. OTA-TM-STI-19, September 1982; 56 pages. NTIS order #PB 83-166 512.

Review of FAA National Airspace System Plan

Critiques the FAA National Airspace System Plan, with emphasis on changes from previous proposals; delineates technological options and alternative strategies of implementation within the general framework of the FAA plan; and analyzes issues of benefits and costs to the Government and airspace users.

Review of the FAA 1982 National Airspace System Plan. OTA-STI-176, August 1982; 72 pages. NTIS order #PB 83-102 772.

Civilian Space Policy and Applications

Explores the question of Federal involvement in space R&D, the issues that arise in the transition from R&D to full-fledged operational status, when and under what circumstances commercial involvement is appropriate, and how to respond to commercial competition from overseas.

Civilian Space Policy and Applications. OTA-STI-177, June 1982; 392 pages. NTIS order #PB 82-234 444.

Global Models, World Futures, and Public Policy

Evaluates methodologies, findings, and implications of global modeling studies. Examines present use and potential usefulness of this technology as a powerful tool for long-range strategic analysis and policy development.

Global Models, World Futures, and Public Policy. OTA-R-165, April 1982; 120 pages. NTIS order #PB 82-251 299.

Airport and Air Traffic Control System

Provides a perspective on both airport development aid and FAA's proposed air traffic control system modernization.

Airport and Air Traffic Control System. OTA-STI-175, January 1982; 144 pages. NTIS order #PB 82-207 606.

Technology for Local Development

Addresses the question of local development and the opportunities for—and appropriateness of—various technologies that can help local people to take advantage of local resources in meeting the needs of their own communities.

An Assessment of Technology for Local Development. OTA-R-129, January 1981; 260 pages. NTIS order #PB 81-189 979.

Impact of Advanced Air Transport Technology

Examines recent advances in the technology of high-speed aircraft and analyzes the economic, environmental, energy, societal, and safety impacts of their widespread introduction. The assessment has been published in four parts: passenger service, program financing and management, service to small communities, and air cargo operations.

Part 1: Advanced High-Speed Aircraft. OTA-T-112, April 1980; 108 pages. NTIS order #PB 80-200 504. Assesses the economics, feasibility, and uncertainties of developing advanced subsonic and/or supersonic passenger aircraft.

Part 2: Air Cargo—Background Paper. OTA-BP-T-10, January 1982; 56 pages. NTIS order #PB 82-186 818. Analyzes air cargo operations, including the historical background and current status of the air freight industry, economics of air freight, the potential market, competitive concerns and the potential for technological change in future cargo aircrafts.

Part 3: Air Service to Small Communities. OTA-T-170, February 1982; 48 pages. NTIS order #PB 82-186 800. Assesses the economic impacts of low density service, the determinants of market size, conditions of competition, deregulation of the domestic commuter airline industry, and availability of air service to small communities.

Part 4: Financing and Program Alternatives for Advanced High-Speed Aircraft—Background Paper. OTA-BP-T-14, August 1982; 52 pages. NTIS order #PB 83-110585. Examines the potential financial and managerial barriers to carrying out—at some future date—a large-scale program to create a new high-speed, long-range commercial air transport employing new technology.

The Automobile Transportation System

Describes energy, environmental, safety, and cost impacts of technological changes and assesses policy options pertaining to the future use and characteristics of the private car and its supporting systems through the year 2000.

Changes in the Future Use and Characteristics of the Automobile Transportation System: Volume 1—Summary and Findings. OTA-T-83, February 1979; 40 pages. NTIS order #PB 293 645.

Changes in the Future Use and Characteristics of the Automobile Transportation System: Volume II—Technical Report. OTA-T-84, February 1979; 376 pages. NTIS order #PB 293 646.

Changes in the Future Use and Characteristics of the Automobile Transportation System: Volume III—Public Participation. OTA-T-100, October 1979; 72 pages. NTIS order #PB 81-115 545.

ADMINISTRATIVE

Informational Brochure

States OTA's purpose, outlines its organization, and lists some of its completed projects.

What OTA Is, What OTA Does, How OTA Works. OTA-PC-104, Revised March 1986. Available free from OTA Publishing Office.

Assessment Activities

Lists and briefly summarizes OTA's current projects, publications in press, recent publications, and selected publications of interest (updated periodically).

Assessment Activities. OTA-PC-105, Revised April 1986. Available free from OTA Publishing Office.

Annual Reports

The annual report presents detailed assessments of the work accomplished by OTA in the preceding year, including a review of management and administrative functions. Of particular importance is a thorough report on the various studies produced by OTA and specific indications of their implications for the technological community. Indications of work in progress are provided and remarks from the OTA Board are included to indicate the extent of congressional oversight.

Annual Report to the Congress, Fiscal Year 1985. OTA-A-289, March 1986; 124 pages. Available from OTA Publishing Office.

Annual Report to the Congress, Fiscal Year 1984. OTA-A-275, January 1985; 124 pages. Available from OTA Publishing Office.

Annual Report to the Congress, January 1 to September 30, 1983. OTA-A-226, March 1984; 76 pages. NTIS order #PB 84-173 814.

OTHER OTA Publications Available Through NTIS ONLY

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OTA-E-144 **Solar Power Satellite Systems**	PB 82-108 846
OTA-E-134 **Nuclear Powerplant Standardization: Light Water Reactors**	PB 81-213 589
OTA-TM-E-5 **World Petroleum Availability: 1980-2000**	PB 81-145 252
OTA-E-120 **Conservation and Solar Energy Programs of the Department of Energy: A Critique**	PB 80-197 759
OTA-E-110 **The Future of Liquefied Natural Gas Imports**	PB 80-173 552
OTA-TM-E-1 **Gasohol**	PB 80-105 885
OTA-E-92 **Residential Energy Conservation Vol. I**	PB 298 410
OTA-E-87 **Residential Energy Conservation Vol. II**	PB 80-162 829
OTA-E-86 **The Direct Use of Coal: Prospects and Problems of Production and Combustion**	PB 295 797
OTA-E-66 **Application of Solar Technology to Today's Energy Needs Vol. I**	PB 283 770
OTA-E-77 **Application of Solar Technology to Today's Energy Needs Vol. II**	PB 289 762
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